

REMARKS

This is a Response to the Office Action mailed May 31, 2007, in which a three (3) month Shortened Statutory Period for Response has been set, due to expire August 31, 2007. No new matter has been added to the application. No fee for additional claims is due by way of this Amendment. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090. Claims 9-28 remain pending.

1. Rejections Under 35 U.S.C. § 112, First Paragraph

At page 2 of the Office Action, claims 24 and 26 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement because in claim 24, the “claimed ‘third data’ is not supported anywhere in the specification.” Applicants respectfully traverse the rejection for at least the following reason.

The Specification discloses that “the level of the bottom power is set so that the ... information recording layer ... can be cooled during irradiation with the laser beam whose power is set at the bottom power” (page 6, lines 12-17). Thus, setting the bottom power level is disclosed. The Specification further discloses that “when data are to be recorded in the optical recording medium 10, the controller reads ID data ... recorded in the optical recording medium 10 as the data for setting recording conditions” (page 43, lines 4-7). Thus, the recording conditions, one of which is the bottom power, may be set into and read from the recording medium 10.

Claim 18 recites a “first data for setting data recording conditions ... including a level corresponding to a recording power” and a “second data for setting data recording conditions necessary for setting the power of the laser beam to the bottom power ... and modulating the power of the laser beam so that a time period ... becomes longer as a linear recording velocity is higher.” Claim 24 further narrows the scope of claim 18 by reciting a “third data for setting data recording conditions necessary for *setting the level of the bottom power.*” As noted above, setting the level of the bottom power is disclosed in the Specification at least at page 6, lines 12-17.

Although the term “third” is not expressly used in the Specification to identify different portions of the data recording conditions, the use of the term “third” is permissible because the meaning of the terms “first,” “second,” and “third” is so well understood and inherent that one skilled in the art will fully appreciate the scope of claim 24. That is, the use of the term “third data” to distinguish the “level of the bottom power” is permissible since using such terms as first, second, and third in identifying recited claim features is a commonly used and well understood claim drafting practice.

For at least the reason above, Applicants respectfully request withdrawal of the rejection of claim 24 under 35 U.S.C. § 112, first paragraph, because “setting the level of the bottom power” is disclosed in the Specification, and because the practice of identifying recited features with terms such as “first,” “second,” and “third” is commonly used and well understood by one of ordinary skill in the arts. Withdrawal of the rejection to claim 24 will obviate the rejection of claim 26 since it depends upon claim 24. (Further, withdrawal of the rejection to claim 24 would obviate any rejection made to claim 28, which was not made by the Office Action, since claim 28 also depends upon claim 24.)

2. Rejections Under 35 U.S.C. § 103(a)

In the Office Action, at page 2, claims 9-12, 15-21 and 24-28 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Hideki et al.* (JP 2001-243655), hereinafter *Hideki*, in view of *Nakamura* (U.S. Patent 6,631,109), hereinafter *Nakamura*. At page 5, claims 13, 14, 22 and 23 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Hideki* in view of *Nakamura*, in further view of *Tanaka et al.* (U.S. Patent 6,426,930). It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. § 103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements and/or features of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

a. Independent Claims 9, 17, and 18

Independent claim 9 is allowable for at least the reason that the proposed combination of *Hideki* in view of *Nakamura* does not disclose, teach, or suggest a method for recording data in an optical recording medium having the feature of “forming a recording mark in the at least one information recording layer ... wherein the power of the laser beam is modulated so that a time period during which the power of the laser beam is set to the bottom power for forming the end portion of each of the recording marks becomes longer as a linear recording velocity is higher,” as recited in claim 9 (emphasis added). Independent claim 17 is allowable for at least the reason that the proposed combination of *Hideki* in view of *Nakamura* does not disclose, teach, or suggest an apparatus for recording data in an optical recording medium having the feature “wherein the power of the laser beam is modulated so that a *time period during which the power of the laser beam is set to the bottom power* for forming the end portion of each of the recording marks *becomes longer as a linear recording velocity is higher*,” as recited in claim 17 (emphasis added). Independent claim 18 is allowable for at least the reason that the proposed combination of *Hideki* in view of *Nakamura* does not disclose, teach, or suggest an optical recording medium having the feature “wherein the optical recording medium is further recorded with second data for setting data recording conditions necessary for *setting the power of the laser beam to the bottom power* when it is projected onto the end portion of each of the recording marks and modulating the power of the laser beam so that *a time period during which the power of the laser beam is set to the bottom power* for forming the end portion of each of the recording marks *becomes longer as a linear recording velocity is higher*,” as recited in claim 18 (emphasis added).

As noted in the Office Action at page 3, *Hideki* “does not disclose a method and apparatus for recording data on an optical recording medium, wherein the power of the laser is set to the bottom power wherein it is projected onto the end portion of each of the recording marks, and wherein the power of the laser beam is modulated so that a time period during which the power of the laser beam is set to the bottom power for forming the end marks becomes longer as linear recording velocity is higher.” Thus, *Hideki* fails to disclose, teach or suggest the above-recited features of claims 9, 17, and 18.

Nakamura also fails to disclose, teach, or suggest the above-recited features of claims 9, 17, and 18. *Nakamura* discloses, at most, that “the optical recording apparatus of the present embodiment is configured such that the controller 16 causes the write power determination unit (WPDU) 17 to control the multi-pulse waveform of FIG. 4B *when the linear velocity of rotation of the medium 1 is set in a high-speed range from 5 m/s to 28 m/s*, such that the first pulse width ‘t1’ of the front-end portion ‘fp’ ranges 0.1T to 1T and the fourth pulse width ‘t4’ of the tail-end portion ‘op’ ranges 0.2T to 1.3T. *Optimum values of the first pulse width t1 and the fourth pulse width t4 vary depending on the recording material of the recording layer of the medium 1*” (column 11, lines 13-24; emphasis added).

Nakamura clearly discloses that width of the fourth pulse width ‘t4’ varies depending upon the type of recording material of the recording layer. The range of the fourth pulse width ‘t4’ may vary (depending on the type of recording material) “when the linear velocity of rotation of the medium 1 is set in a high-speed range from 5 m/s to 28 m/s.” Disclosing that the pulse width ‘t4’ may vary (depending on the type of recording material) when recording at the high-speed range is not the same as disclosing that the width of the fourth pulse width ‘t4’ varies as a function of linear velocity.

At most, one skilled in the art would appreciate that when recording at the disclosed high speed, the width the fourth pulse width ‘t4’ would be based on the type of recording material of the recording layer. That is, recording layer material type under *Nakamura* becomes relevant when recording at the disclosed high-speed range. *Nakamura* only discloses that “*optimum values of the ... fourth pulse width t4 vary depending on the recording material of the recording layer of the medium 1*” (column 11, lines 22-24; emphasis added).

The *Nakamura* claims, Summary, and Abstract disclose at most that “when the linear velocity of rotation of the medium is set in a high-speed range from 5 m/s to 28 m/s, such that the first pulse width t1 of the front-end portion ranges 0.1T to 1T and the fourth pulse width t4 of the tail-end portion ranges 0.2T to 1.3T” (claims 1, 4, 5, 8, 9, and 10, and related portions of the Summary and Abstract). Here, when the linear velocity of rotation of the medium is set in the high-speed range (5 m/s to 28 m/s), *only* a range of speed is specified that defines what is meant by the term “high-speed linear recording velocity.” Accordingly, for *any* linear recording

velocity within the specified range, *Nakamura* only discloses that the range of the fourth pulse width t_4 need only lie between $0.2T$ to $1.3T$. Nothing more can be properly inferred from the above-identified claims, Summary, and Abstract of *Nakamura*. To infer more, one skilled in the art would have look for more detail in the *Nakamura* Specification. As noted above, the *Nakamura* Specification only discloses that “optimum values of the ... fourth pulse width t_4 vary depending on the recording material of the recording layer of the medium 1” (column 11, lines 22-24).

Since there is no express disclosure in *Nakamura* that the pulse width ‘ t_4 ’ becomes longer as recording velocity increases, one skilled in the art would fail to appreciate any relationship between linear recording velocity and the pulse width ‘ t_4 ’ (that is, one skilled in the art would, at most, understand that the pulse width ‘ t_4 ’ may vary based upon the type of material when recording at the disclosed high-speed linear velocity, which is defined by *Nakamura* as any speed between 5 m/s and 28 m/s).

Summarizing, *Nakamura* fails to disclose, teach, or suggest that a time period during which the power of the laser beam is set to the bottom power for forming the end portion of each of the recording marks becomes longer as a linear recording velocity is higher. Accordingly, *Nakamura* fails to cure the deficiencies of the *Hideki* disclosure. Accordingly, the proposed combination of *Hideki* in view of *Nakamura* does not disclose the above-recited limitations of claims 9, 17, and 18. Therefore, a *prima facie* case establishing an obviousness rejection by *Hideki* in view of *Nakamura* has not been made. Thus, claims 9, 17, and 18 are not obvious under proposed combination of *Hideki* in view of *Nakamura*, and the rejection should be withdrawn.

b. Dependent Claims

Because independent claims 9, 17, and 18 are allowable over the cited art of record, dependent claims 10-16 (which depend from independent claim 9), dependent claims 19-23 (which depend from independent claim 17), and dependent claims 24-28 (which depend from independent claim 18) are allowable as a matter of law for at least the reason that these dependent claims contain

all features/elements of their respective independent base claim. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, the rejection to these claims should be withdrawn.

3. Conclusion

In light of the above remarks, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that all pending claims 9-28 are allowable. Applicants, therefore, respectfully request that the Examiner reconsider this application and timely allow all pending claims. The Examiner is encouraged to contact Mr. Armentrout by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any informalities in the claims, he is further encouraged to contact Mr. Armentrout by telephone to expediently correct such informalities.

Respectfully submitted,
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